

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended): An electron beam physical vapor deposition coating apparatus comprising:

C1 a coating chamber at an elevated temperature and a subatmospheric pressure;

a crucible within the coating chamber;

a coating material surrounded by and contained within the crucible, the coating material having a surface exposed by the crucible;

an electron beam gun; and projecting

an electron beam projected onto the surface of the coating material by the electron beam gun, the electron beam defining a beam pattern having a higher intensity at an interface of the surface of the coating material with the ~~with and the~~ crucible than at a central region of the surface of the coating material.

Claim 2 (original): An electron beam physical vapor deposition coating

apparatus according to claim 1, wherein the intensity at the central region of the surface of the coating material is substantially zero.

Claim 3 (previously presented): An electron beam physical vapor deposition coating apparatus according to claim 1, wherein the electron beam is also projected onto a surface portion of the crucible contiguous with the surface of the coating material, the beam pattern having a higher intensity on the surface portion of the crucible than at the central region of the surface of the coating material.

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Claim 4 (previously presented): An electron beam physical vapor deposition coating apparatus according to claim 1, wherein the beam pattern has a perimeter on the surface portion of the crucible, the electron beam being incident on the surface of the coating material at an oblique angle so as to establish relative to the electron beam gun a proximal point and an oppositely-disposed distal point at the perimeter of the beam pattern, the beam pattern having a lower intensity at the proximal and distal points than elsewhere at the perimeter of the beam pattern.

Claim 5 (original): An electron beam physical vapor deposition coating apparatus according to claim 4, wherein the intensity of the beam pattern at the

proximal and distal points is about 30% to about 70% less than the intensity elsewhere at the perimeter of the beam pattern.

Claim 6 (currently amended): An electron beam physical vapor deposition coating apparatus comprising:

a coating chamber containing a coating material, the coating chamber being at an elevated temperature and a pressure greater than 0.010 mbar;

a crucible within the coating chamber;

a coating material surrounded by and contained within the crucible, the


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ant coating material having a surface exposed by the crucible;

an electron beam gun; and projecting

an electron beam projected by the electron beam gun onto the surface of the coating material and a contiguous surface portion of the crucible, the electron beam forming a beam pattern with a perimeter on the contiguous surface portion of the crucible, the electron beam gun melting the surface of the coating material and evaporating molten coating material, the electron beam having a higher intensity at an interface of the surface of the coating material with the contiguous surface portion of the crucible than at a central region of the surface of the coating material, the electron beam being incident on the surface of the coating material at an oblique angle so as to

establish relative to the electron beam gun a proximal point and an oppositely-disposed distal point at the perimeter of the beam pattern, the electron beam having a lower intensity at the proximal and distal points than elsewhere at the perimeter of the beam pattern.

Claim 7 (original): An electron beam physical vapor deposition coating apparatus according to claim 6, wherein the intensity at the central region of the surface of the coating material is substantially zero.

 Claim 8 (original): An electron beam physical vapor deposition coating apparatus according to claim 6, wherein the intensity of the beam pattern at the proximal and distal points is about 30% to about 70% less than elsewhere at the perimeter of the beam pattern.

Claim 9 (previously presented): An electron beam physical vapor deposition coating apparatus according to claim 6, further comprising means for projecting a separate beam pattern on the crucible for evaporating droplets of the molten coating material on the crucible, the separate beam pattern having a higher intensity than the beam pattern on the coating material.

Claim 10 (previously presented): An electron beam physical vapor deposition coating apparatus according to claim 1, further comprising means for projecting a separate beam pattern on the crucible for evaporating droplets of the molten coating material on the crucible, the separate beam pattern having a higher intensity than the beam pattern on the coating material.

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